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SICKNESS AMONG OFFICE WORKERS.¹

A YEAR'S EXPERIENCE OF A LARGE MANUFACTURING COMPANY WHICH RECORDED THE NUMBER OF HOURS WHICH EACH OFFICE EMPLOYEE LOST FROM WORK ON ACCOUNT OF SICKNESS AND ACCIDENTS.

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Through the courtesy of the medical research department of a large corporation in the Middle West, there is presented here the morbidity experience of the company's home office employees during the year ending January 31, 1921. The average number on the office pay roll during this period was 1,282, with women in the majority. A record was kept of the hours lost from work by each person on account of sickness and injuries. The data were obtained when the employee checked in through the medical department after absence for any cause. The illnesses causing disability were diagnosed by the medical department or the family physician. Since an attempt was made to include every hour lost from work on account of disability, it is believed that these data are more exact than any ever before published in this country for an industrial group of more than 1,000 persons.

AMOUNT OF DISABILITY.

The committee on industrial waste of the Federated American Engineering Societies, appointed in January, 1921, by Herbert Hoover, has reported that "the 42,000,000 men and women gainfully employed [in this country] probably lose on an average more than eight days each annually from illness disabilities."² The recorded morbidity of 1,282 office workers shows an annual rate of 8.15 days lost from work per person. Is this rate representative of the average amount of disabling illness experienced by the adult working population in the United States? There are at least two factors which would tend to make the sickness rate in question higher than the average: (1) The majority of the office workers were women, whereas

¹ From the Statistical Office, United States Public Health Service.

² Engineers' Report on Industrial Waste. Review by Margaret Gadsby in the Monthly Labor Review for September, 1921, p. 12.

the number of men usually exceeds the number of women employed; and (2) an influenza epidemic causing a loss of nearly two days of work per person occurred during the year in which the records were kept. On the other hand, there are at least three factors which would tend to make the illness rate lower than the average rate for the gainfully employed: (1) The average age of the office employees was only 23.7 years; (2) clerical and executive work is relatively free from health hazards; and (3) the health of the group was safeguarded by well-organized medical supervision. Age is an important factor; it has been found that except for epidemics and other unusual conditions, the age distribution of a group may account for the amount of time lost to an extent greater than any other single cause. With due allowance for these several factors it would seem from what little evidence we have that the estimate of the committee on waste is not an overstatement of the actual time lost from work on account of disabling diseases and accidents.³

During the year there were approximately two cases of disabling sickness per person which, curiously enough, is the number that every company with comparable morbidity data has thus far reported. The average number of working days lost per case was 3.8.

CAUSES OF DISPENSARY CALLS AND OF ACTUAL DISABILITY.

The dispensaries of industrial companies are established primarily for the treatment of accidents and minor ills and for consultations over symptoms of ill health about which employees desire advice. It is assumed that the time lost from work will be diminished if diseases are recognized in their incipency and appropriate treatment is administered. It is therefore of interest to compare the number of dispensary calls which each disease or symptom occasioned with the actual time lost on account of each disease. In Table I, under the different headings for specific disease groups, the illnesses are listed in order of the frequency of dispensary calls and then in order of the frequency of cases of actual disability. When the same disease caused absence from work as well as dispensary visits, the name of the disease is not shown twice, but its place on the list is determined by the number of calls to the dispensary. The causes of dispensary calls represent the diagnosis of the nurse in attendance at the dispensary. Most of the calls, of course, were occasioned by symptoms of sickness; but knowledge of the prevalence of certain symptoms is highly important.

³ It is assumed that the committee's estimate included time lost due to nonindustrial accidents, but whether it did or did not makes little practical difference, since only 0.35 day per person were lost by the office workers on account of accidents presumably of both industrial and nonindustrial origin.

TABLE I.—Comparison of the causes of calls to dispensary with the causes of disability:
Morbidity experience of 1,282 office employees during the year ending Jan. 31, 1921.

Inter- national Code No. ^a	Diseases and conditions.	Number of calls to dis- pensary.	Number of lost- time cases.	Number of 8-hour days lost from work. ^b	Days lost from work per person.
1-205	All diseases and conditions	11,259	2,751	10,450	8.15
1-25	Epidemic and endemic diseases	64	494	3,241	2.53
16	Dysentery.....	61	44	73	.06
13	Mumps.....	3			
11	Influenza and grippe		403	2,520	1.97
9	Pertussis.....		23	222	.17
8	Scarlet fever.....		14	284	.22
6	Smallpox.....		3	72	.06
7	Measles.....		3	38	.03
1	Paratyphoid.....		2	27	.02
21	Erysipelas.....		1	4	
10	Croup.....		1	1	
26-69	General diseases not included above.....	1,956	106	1,175	.92
41	Infection (minor).....	1,027			
41	Vaccination (dressings).....	771			
41	Vaccination.....	153	43	122	.09
41	Pasteur treatment.....	3			
52	Rheumatosis.....	2	51	80	.06
52	Rheumatism.....		5	61	.05
31-36	Tuberculosis.....		4	828	.65
57	Diabetes.....		1	25	.02
58	Anemia (primary).....		1	53	.04
60	Goiter.....		1	6	.01
70-84	Diseases of the nervous system.....	367	55	205	.16
82	Neuritis.....	131	27	50	.04
84	Nervousness.....	127			
82	Neuralgia.....	83	26	37	.03
84	Hiccough.....	21	1	1	
84	Vertigo.....	5			
75	Paralysis of jaw.....		1	117	.09
85-86	Diseases of the organs of special sense.....	674	66	83	.06
85	Conjunctivitis.....	586	20	27	.02
86	Ear impaction.....	30			
75	Stye.....	27			
86	Earache.....	17	6	6	
86	Deafness.....	14			
85	Eye refraction.....		31	41	.03
85	Eye strain.....		9	9	.01
87-96	Diseases of the circulatory system.....	12	12	38	.03
94	Adenitis.....	9	7	28	.02
95	Epistaxis.....	3	2	3	
93	Hemorrhoids.....		3	7	.01
87-107	Diseases of the respiratory system.....	2,023	618	1,029	.80
97	Colds.....	1,393	435	640	.50
97	Rhinitis.....	504			
97	Cold sore.....	60			
107	Hay fever.....	45	2	2	
102	Pleurisy.....	21	13	18	.01
98	Laryngitis.....		163	213	.17
100	Pneumonia.....		5	156	.12
108-127	Diseases of the digestive system.....	2,276	490	1,230	.96
109	Sore throat.....	1,014	53	290	.23
112	Indigestion—stomach.....	565	223	363	.28
119	Constipation.....	417	5	7	
127	Nourishment.....	104			
108	Dental.....	76	94	155	.12
108	Toothache.....	56			
114	Indigestion—intestinal.....	37	49	108	.09
124	Biliousness.....	7			
109	Tonsillitis.....		47	202	.16
124	Liver congestion.....		15	60	.05
117	Appendicitis.....		3	41	.03
118	Hernia.....		1	4	
128-142	Nonvenereal diseases of the genito-urinary system and annexa.....	539	309	589	.46
141	Dysmenorrhea.....	527	299	482	.38
133	Cystitis.....	10	6	43	.03
129	Albuminuria.....	2			
141	Ovaritis.....		3	47	.04
129	Nephritis.....		1	17	.01

^a According to the third decennial revision of the International List of Causes of Sickness and Death, by the International Commission, Paris, October 11-14, 1920. The revision is still tentative, as the final report has not yet been received from the secretary general of the commission.

^b Based on record of hours of absence due to sickness and accidents.

TABLE I.—Comparison of the causes of calls to dispensary with the causes of disability: Morbidity experience of 1,282 office employees during the year ending Jan. 31, 1921—Con.

International Code No.	Diseases and conditions.	Number of calls to dispensary.	Number of lost-time cases.	Number of 8-hour days lost from work.	Days lost from work per person.
151-154	Diseases of the skin and cellular tissue.....	289	75	221	0.17
154	Dermatosis.....	116	3	6	
154	Acne.....	71			
151	Canker sore.....	49			
154	Warts.....	37			
153	Abscess.....	15	69	199	.16
154	Poison ivy.....	1	3	16	.01
155-158	Diseases of the bones and of the organs of locomotion.....	51			
158	Stiff neck.....	41			
158	Lumbago.....	6			
158	Broken arches.....	4			
165-203	Affections produced by external causes.....	1,266	87	444	.35
203	Injury (minor).....	1,153	52	71	.06
203	Injury (major).....	110	33	370	.29
179	Sunburn.....	3	2	3	
204, 205	Ill-defined diseases and conditions.....	1,742	439	2,196	1.71
205	Headache.....	1,014	235	246	.19
205	Observation.....	312			
205	Fatigue.....	253	81	945	.74
205	Laboratory.....	158			
205	Hives.....	5			
205	No diagnosis.....		76	108	.08
205	Surgical.....		32	797	.62
205	Quarantine.....		14	78	.06
205	Shock.....		1	22	.02

A comparison of the figures in the first two columns of Table I illustrates the value of early treatment in preventing disability. Over 9 per cent of all dispensary calls was due to minor infections, yet not a single case of disability from purulent infection developed. This seems remarkable when comparison is made with the morbidity experience of other industrial groups.⁴ Continuing inspection of the table, we find that there were only four cases of tuberculosis, five of pneumonia, and three of appendicitis. The small loss of time from the myalgias might be accounted for by the large number of young people in the organization, the average age, as mentioned before, being only 23.7 years. Except for influenza, there were no epidemics of consequence.

It is of interest to observe whether the diseases and conditions occasioning the largest number of dispensary calls caused also the largest amount of disability. Colds, rhinitis, headache, and sore throat constituted 35 per cent of all calls to the dispensary, whereas colds, septic throat, and headache, plus their more serious developments (influenza, grippe, pneumonia, laryngitis, and tonsillitis), were responsible for 41 per cent of total time lost on account of sickness. Indigestion induced 5.4 per cent of total dispensary calls and contributed 4.5 per cent of all time lost on account of disabling illness.

⁴ Infections ranked fifth in severity as measured by the amount paid out in benefits by a small association of paper makers, and thirteenth by the same measure of severity in a large sick-benefit association of steel workers. The figures are presented in "Records of the Small Sick-Benefit Association as a Source of Statistics for the Factory Medical Department," Public Health Reports, vol. 37, No. 8, pp. 413-422, and in "Diseases Prevalent Among Steel Workers in a Pennsylvania City," Reprint No. 632 from the Public Health Reports, Dec. 31, 1920.

Dysmenorrhea caused approximately 5 per cent of dispensary calls and the same percentage of absenteeism. These relationships suggest that an appropriate proportion of the industrial physician's time must have been devoted to treatment of the common ailments responsible for the greatest amount of disability.

In Table II the departments are listed in order of the number of days of absence from work per employee. In general, the departments employing the largest proportion of men exhibit the lowest illness rates, and those composed entirely of women have the highest rates. Sex is a considerable factor in disability.

TABLE II.—*Morbidity by departments: Amount of disability compared with the number of calls to dispensary among 1,282 office employees during the year ending Jan. 31, 1921.*

Rank according to severity of sickness.	Principal departments.	Average number employees.	Number of 8-hour days lost from work per employee. ^a	Percentage female (approximately).	Number of calls to dispensary per employee.	Percentage variation from the mean for all departments.	
						Days lost per employee.	Calls to dispensary per employee.
	All departments.....	1,282	8.12	65	8.6	0	0
1	Stationery and supply.....	158	10.59	100	7.3	+30.4	-15.1
2	Stenographic.....	58	10.35	100	10.2	+27.5	+18.6
3	Merchandise distribution and purchasing.....	173	8.22	50	8.5	+1.2	-1.2
4	Accounting and auditing ^b	446	7.93	90	9.8	-2.3	+14.0
5	Other departments not listed separately.....	143	7.65	50	8.1	-5.8	-5.8
6	Telephone and telegraph.....	18	7.22	100	5.3	-11.1	-38.1
7	Mechanical goods, export, sales, and service departments.....	248	7.08	10	7.8	-12.8	-9.3
8	Traffic.....	38	5.21	10	6.2	-35.8	-27.9

^a Based on record of hours of absence due to sickness and accidents.

^b Includes advertising, executive offices, board of control, cashier, and collection departments.

DURATION OF THE 15 MOST FREQUENT CAUSES OF DISABILITY.

The figures for the 15 most frequent causes of disability displayed in Table III and Figure 1 gauge the losses in time which the annoying petty ills occasioned. One out of every three persons had a cold severe enough to incapacitate for work, the average duration of absence due to colds being one and one-half days. This is equivalent to the loss of one-half of a working day by each employee on the pay roll. Though influenza and grippe were not quite so prevalent as colds, they caused a time loss four times as great. Fatigue caused a surprising amount of disability from the standpoint of duration as well as number of cases. The severity rate was three-quarters of a day per person on the pay roll. The average duration of nearly 12 working days per case of fatigue was by far the longest of any of the 15 most frequent causes of disability. The situation suggests an opportunity for reducing the amount of disability from fatigue by a study of the cases that occurred.

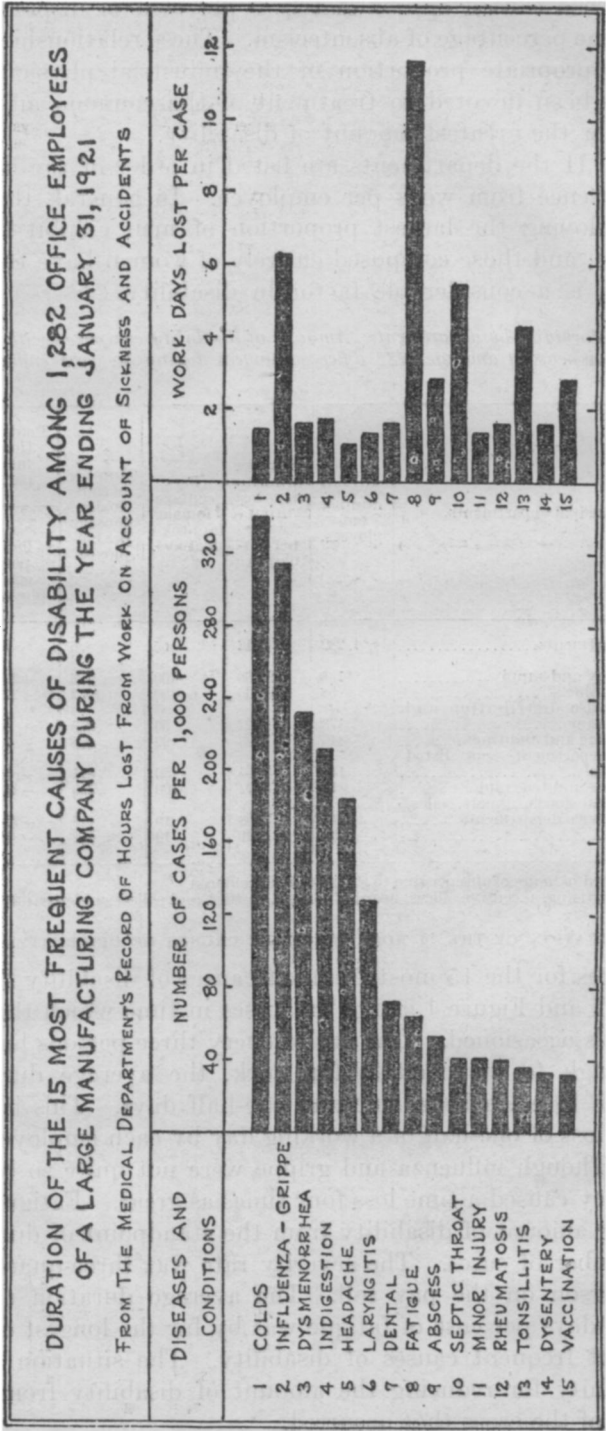


Fig. 1.

TABLE III.—*Frequency and severity of the 15 most frequent causes of disability among 1,282 office employees during the year ending Jan. 31, 1921.*

Rank according to the frequency of cases.	Cause of disability.	Number of cases	Number of cases per 1,000 persons.	Number of 8-hour days lost from work. ^a	Working days lost per person.	Working days lost per case.
1	Colds.....	435	339.3	640	0.50	1.47
2	Influenza-grippe.....	403	314.4	2,520	1.97	6.25
3	Dysmenorrhea.....	299	233.2	482	.38	1.61
4	Indigestion.....	272	212.2	472	.37	1.74
5	Headache.....	235	183.3	246	.19	1.05
6	Laryngitis.....	163	127.2	213	.17	1.31
7	Dental.....	94	73.3	155	.12	1.65
8	Fatigue.....	81	63.2	945	.74	11.66
9	Abscess.....	69	53.8	199	.16	2.88
10	Septic throat.....	53	41.3	290	.23	5.47
11	Minor injury.....	52	40.6	71	.06	1.37
12	Rheumatosis.....	51	39.8	80	.06	1.56
13	Tonsillitis.....	47	36.7	202	.16	4.29
14	Dysentery.....	44	34.3	73	.06	1.67
15	Vaccination.....	43	33.5	122	.09	2.83

^a Based on record of hours of absence due to sickness and accidents.**CASES OF INFLUENZA REPORTED BY STATES.****COMPARISON OF THE FIRST NINE WEEKS OF THE YEARS 1920, 1921, AND 1922.**

The accompanying table shows the number of cases of influenza reported for the first nine weeks of 1922 by 24 States, compared with similar reports for the corresponding weeks of the years 1920 and 1921.

All weeks ended on Saturday. The first week of 1922 ended January 7; in 1921 the first week ended January 8; and in 1920 it ended January 10.

Number of cases of influenza reported by States for the first nine weeks of the years 1920 to 1922, inclusive.

State.	Week number.								
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.
Alabama:									
1922.....	2		5	3	26	95	29	20	31
1921.....						5	11		7
1920.....			8	203	1,296	3,236	2,366	3,603	3,885
Arkansas:									
1922.....	83	40	64	88	192	232	153	202	371
1921.....	63	78	75	37	52	70	19	94	63
1920.....	35	53	179	595	5,665	6,599	2,793	1,690	2,576
California:									
1922.....	38		28	48	92	845	4,315	10,033	9,917
1921.....	22	23	30	37		98		194	143
1920.....	32	322	1,604	7,133	13,660	11,887	7,420	5,527	918
Connecticut:									
1922.....	5	7	9	22	109	518	1,325	675	711
1921.....	13	14	13	13	8	9	12	18	18
1920.....	1	14	1,123	4,664	5,666	4,863	2,771	1,183	571
Delaware:									
1922.....			5		7	2	2	9	
1921.....	9	12	12	4	2	7	19	20	19
1920.....	1		5	21	86	78	43	36	50
District of Columbia:									
1922.....	1	3	4	7	5	9	8	7	9
1921.....	2	2	2	4	4	1	1	1	4
1920.....	9	126	1,216	1,616	557	298	104	36	21
Florida:									
1922.....	3	6	21	6	15	35	123	118	68
1921.....	6	3	4	10	3	6	4	4	6
1920.....	2	10	484	1,547	1,581	1,735	1,420	1,026	580
Georgia:									
1922.....	21	19	52	64	74	81	128	162	173
1921.....	30	24	26	25	37	26	35	8	32
1920.....	27	27	95	617	3,256	5,411	7,800	8,210	3,677